

Amendments f the Claims:

A detailed listing of all claims in the application is presented below. This listing of claims will replace all prior versions, and listings, of claims in the application. All claims being currently amended are submitted with markings to indicate the changes that have been made relative to immediate prior version of the claims. The changes in any amended claim are being shown by strikethrough (for deleted matter) or underlined (for added matter).

1.(Currently amended) ~~In~~ A cam torque actuated variable cam timing phaser disposed between a first moving shaft and a second moving shaft, the phaser having a first end connected to the first moving shaft, and a second end connected to the second moving shaft; a housing connected to the first end and a rotor connected to the second end, the rotor forming at least one vane disposed within the housing and dividing the housing into an advance chamber and a retard chamber, the vane being limited by at least one physical stop caused by an inside surface of the housing; the phaser being coupled to at least one check valve; the phaser being further controlled by a feed back control loop having a control law, wherein an integrator accumulates a plurality of error signals resulting from the difference between a set point control signal and a feedback signal; the phaser further including a spool valve having a predetermined null position; a method involving the phaser comprising:

moving the spool valve just off the predetermined null position;
permitting control fluid to flow at a substantially slow rate; and
causing the vane to be positioned at a substantial distance away from the physical stops, thereby reducing noise caused by the vane coming in contact with the housing.

2. (Original): The method of claim 1 further comprising the step of opening the loop.

3. (Original): The method of claim 1, wherein the spool valve is center mounted within the phaser.

4. (Original): The method of claim 1, wherein the step of moving the spool valve just off the predetermined null position includes moving the spool valve toward a retard direction or an advance direction.
5. (Original): The method of claim 1, wherein the predetermined null position is determined by a controller.
6. (Original): The method of claim 1, wherein the engine controller is an ECU.
7. (New): The method of claim 1, wherein the variable cam timing phaser is a torsional assist (TA) phaser.
8. (New): The method of claim 1, wherein the variable cam timing phaser is cam torque actuated (CTA) phaser.